DOCUMENT RESUME

ED 086 102 HE 005 009

AUTHOR Pedrini, Bonnie C.; Pedrini, D. T.
TITLE Predictors of College Success.
PUB DATE [74]
NOTE 32p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Academic Achievement; Bibliographies; *College Students; Employment; Financial Needs; *Higher Education; Marital Status; Racial Characteristics; Sex (Characteristics); Social Class; *Success Factors; *Withdrawal

ABSTRACT

Higher-education regents, administrators, and faculty often make decisions of inclusion and exclusion with regard to students and programs. There is abundant professional literature, opinions and/or research, related to college success. Specifically this paper includes summary statements and bibliographies of college academic achievement, college attrition, and factors related to achievement and attrition: social class, race, sex, marital status, financial aid, employment, and special programs. Almost 300 references are included as well as tentative conclusions. There is a need for multivariate action research. The information presented in this paper could be useful for research in individual colleges with specific groups. (Author)

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PREDICTORS OF COLLEGE SUCCESS

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Higher-education regents, administrators, and faculty often make decisions of inclusion and exclusion with regard to students and programs. There is abundant professional literature, opinions and/or research, related to college success. Specifically this paper includes summary statements and bibliographies of college adacemic achievement, college attrition, and factors related to achievement and attrition: social class, race, sex, marital status, financial aid, employment, and special programs. Almost 300 references are included as well as tentative conclusions. There is a need for multivariate action research. The information presented in this paper could be useful for research in individual colleges with specific groups.

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Predictors of College Success

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I. Prediction of Academic Achievement

The research concerned with the prediction of college achievement has considered many single and multiple predictor variables. The literature is replete with reports studying the predictive validity of high school grades and achievement/aptitude test scores. Measures of reading ability, and more recently, biographical data, are also factors commonly studied for predictive purposes. While many factors are important, it appears that for the majority of students applying for college entrance, "the high school average (or class rank) is. . .the best single predictor of college grades; aptitude test scores. . .add appreciably to the accuracy of that prediction, and scores on tests in specific subject-matter areas add only a modest amount of predictive power to the combination of high school grades and aptitude test scores (Commission on Tests, 1970, p. 18)."

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II. Prediction of Attrition

The majority of data has suggested that students who persist, transfer, drop out, or flunk out can be discriminated on the basis of high school grades (or rank) and/or standardized test scores. These results were not unexpected. Since college performance, that is, GPA, is a major reason for withdrawal and high school and test performances are relatively reliable predictors of college achievement, it follows that these measures should be able to distinguish between high and low achieving students who withdraw or persist. In conclusion, college GPA, high school grades, and achievement/aptitude test scores have been identified as variables strongly related to college attrition, "but no one or two neatly packaged predictors of attrition have been found (Morgan, 1971, p. 3906-A)."

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III. Factors Related to Academic Achievement and Attrition

The research literature has generally indicated that 1) high school grades and standardized test scores are the best predictors of academic

achievement in college and that 2) college grade point average is a major determinant of college attrition. While these relationships are relatively stable for the majority of students, they appear to waver with students having culturally different backgrounds. There are many other factors which may be instrumental in altering the validity of high school performance, entrance examinations, and college performance (Miller, 1970). This section will include summaries and bibliographies of some of the related factors:

Socioeconomic Level: Economically Disadvantaged

Minority: Race

Sex

Marital Status

Financial Aid

Employment

Special Programs

A. Socioeconomic Level: Economically Disadvantaged

It appears that socioeconomic level is directly related to college accessibility--low income students are less likely to attend college. Generally, the research literature has shown that low socioeconomic level is associated with: lower general achievement/aptitude test scores; variable college success, and a higher dropout rate.

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B. Minority: Race

Minority access to higher education has been limited indirectly by the use of traditional selection criteria, especially standardized tests scores.

> Such tests are empirically established measures for the prediction of academic performance, though they are often assailed as carrying a built-in cultural bias. The charge of bias is true in that the tests are related to dominant, i.e., white, cultural patterns (Bowles & DeCosta, 1971, p. 185).

But it is also true that these tests generally tend to accurately measure a person's ability to do quality work in college (Jaffe, Adams & Myers, 1968). "In other words, culturally biased or not, the tests are all too accurate in their measurement of any handicap with respect to college preparation (Jaffe, et al., 1968, p. 252).

It is apparent that the predictive validity of entrance tests for Black achievement and attrition varies with the racial makeup of the institution's student body and the population employed to develop regression equations. The research literature generally suggests that Negroes at predominantly White institutions tend to: 1) obtain higher test scores than Negroes at traditionally Black institutions; 2) obtain lower test scores than Whites at predomdnantly White institutions, and 3) obtain grades in keeping with their test scores, that is, lower grades than Whites, if they are not participating in special programs. On the basis of the research literature, race should be considered when attempting to predict success at college. Separate regression equations for Blacks and Whites have been recommended to enhance the validity of predictions made from standardized test scores.

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Marital status does not seem to have a significant effect upon achievement but is strongly related to college attendance and attrition. Marriage is negatively associated with college attendance, especially for women and more so for Whites than Blacks. Married students are also more apt to drop out, but this may be associated with financial and emotional difficulties.

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G. Special Programs

Special programs developed for regular students with minor academic deficits are often remedial and involve reading skills. Variable results are reported depending on the evaluative criteria used. Special programs for "high-risk" students, that is disadvantaged/minority students and/or marginal admission students, are typically remedial in nature. But often disadvantaged/minority students also have programs which emphasize student cultural background. Attrition rate is the most common criterion used to evaluate special programs for disadvantaged persons; the majority of studies report impressive results (compared to the alternative of no special programs). Studies which evaluated the academic achievements (grades) of special program participants revealed variable results. It appears that while special programs are able to keep high-risk disadvantaged/minority students in school, they may not enhance these students' ability to learn independently. The predictive use of general achievement/aptitude tests is problematic with students enrolled in programs

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IV. Tentative Conclusions

Institutions of higher education have traditionally been selective in accepting applicants for matriculation. Early in the twentieth century it was realized that many single and multiple variables could forecast student achievement, e.g., high school grades, standardized tests, ability to read, ability to study, and intelligence. However, research has tended to emphasize high school grades and achievement/aptitude test scores and has demonstrated fairly conclusively that these measures are the best predictors of college performance.

In attempting to curtail the wastage in higher education, researchers have studied college attrition. Typical investigations identified characteristics which discriminated between dropouts and persisters. College GPA was found to be a significant determinant in college attrition--students with lower GPA's were more apt to drop out. Poor academic achievement could not account for all dropouts. Consequently, the quality of academic performance with regard to persistence and attrition was studied in relation to performance in high school and on general achievement/aptitude tests. These studies reported being able to distinguish between high and low achieving students, directly, and between persisters and dropouts, indirectly. In other words, high school grades and standardized test scores can usually differentiate between persisters, transfers, dropouts, and flunkouts.

The relationship between tests, high school performances and the prediction of college achievement; and between college GPA and attrition are relatively stable for the majority of students. This is not true for culturally distinct students. The research seems to warrant considering several background and foreground factors when attempting to predict the achievement and/or attrition of these students. The factors considered in this paper include socioeconomic status, race, sex, marital status, financial aid, employment, and special programs.

College accessibility is definitely related to socioeconomic status, race. sex, and marital status--lower class, racial minority, and married women students are less apt to attend college than their respective counterparts. Financial aid and special programs are both important as means of augmenting student access to higher education, especially the disadvantaged and Blacks. Employment may be indirectly associated with

college attendance as financial assistance often stipulates work on campus and because the majority of college students are employed at some time during their undergraduate careers.

The prediction of college achievement from traditional measures is affected by several factors. Standardized tests have been acknowledged as being biased toward White, middle class persons, that is, disadvantaged and/or minority persons tend to obtain scores significantly below the mean score of the standardization population. In spite of the biases, these tests generally are able to identify student deficits and to measure adequately student ability to perform well in college when no special treatment is involved. However, the accuracy of test predictions seems to be enhanced when race and sex are considered. Socioeconomic status, financial assistance, and employment, taken independently are not as potent as sex or race in affecting the predictive validity of achievement/aptitude test scores, but the research does warrant considering these factors in various combinations. Special programs, often remedial in nature, distort predictions of participants' achievement based on test scores. Perhaps separate regression equations developed for participants in each special program are in order, but the research literature offers no specific solution at this time.

College attrition appears to be closely related to college accessibility, for example, lower class, Black, married, and women students are more apt to drop out than their respective counterparts. Financial assistance appears to impede dropping out, especially for Black and disadvantaged, and probably married, students. Since part time employment of less than sixteen hours per week does not appear to depress achievement, part time employment may be acting as a deterrent

to attrition. Special programs have been shown to be effective in reducing attrition rate of high risk disadvantaged/minority students.

In summary, the predictions of college academic achievement and attrition for the majority of students are best when based on high school grades and standardized test scores. These measures may also be used with relative accuracy for culturally distinct students when social class, race, sex, marital status, financial aid, employment and special program participation are considered.